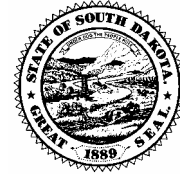


**SOUTH DAKOTA
DEPARTMENT
OF HEALTH**



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The Obesity Epidemic: Hazardous to the Health of South Dakota Youth

*by Kristin Biskeborn, State Nutritionist, Department of Health, and
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The South Dakota Department of Health (DOH), in cooperation with the South Dakota Department of Education (DOE), has collected height and weight data on students since the 1998-1999 school year. The report of the data collected during the 2003-2004 school year was recently sent to participating schools along with their individual school data. Schools and/or school districts who submitted measurements from 100 or more students received school specific and/or district specific data along with the aggregate data in the full report.

Schools voluntarily submit height and weight data. Data for the 2003-2004 year was collected for 27,245 students, which is 20.5 percent of the state's students from 198 schools, which is 21.3 percent of the state's attendance centers. While American Indian students comprise 15.4 percent of the South Dakota enrollment population, they represent 12.3 percent of the respondents.

Starting with the 2003-2004 school year DOH has provided balance beam scales and wall-mounted stadiometers to schools that need them to improve data quality. Data is analyzed for short stature, underweight, overweight and at risk of overweight using the current national standards.

Definitions:

Short Stature: Height-for-age below the 5th percentile for children of the same height and age in the reference populations used by the CDC.

Underweight: Below the 5th percentile in BMI-for-age when compared to children of the same age and gender.

Overweight: At or above the 95th percentile BMI-for-age when compared to children of the same age and gender.

At risk of overweight: 85th to 94th percentile BMI-for-age when compared to children of the same age and gender.

South Dakota students as a whole are neither short nor underweight as both measurements are below the expected 5 percent for each category. See Table 1.

Table 1: School Year 2003-2004 Short Stature and Underweight			
Age	Number Of Students	Height-For-Age Below 5th Percentile	Body Mass Index Below 5th Percentile
5-8 years	8,952	2.8%	3.2%
9-11 years	9,767	2.7%	3.0%
12-14 years	6,347	3.4%	2.4%
15-19 years	2,179	4.5%	2.2%
Total	27,245	3.0%	2.8%

Source: South Dakota Department of Health

Child obesity

Obesity is a risk factor for cardiovascular disease, hypertension, diabetes, degenerative joint disease, and psychological problems. Although commonly thought of as an adult disease, obesity is a growing problem in children and adolescents and its consequences are increasingly being seen. Overweight children and adolescents have increased blood lipids and other cardiovascular risk factors. Research shows that 60 percent of overweight 5- to 10-year-old children already have at least one risk factor for heart disease, including hyperlipidemia and elevated blood pressure or insulin levels. Type 2 Diabetes in children, a disease that typically appears in adults, is increasing at alarming rates among children and adolescents. Liver disorders are more frequently found in overweight children and overweight children also have more hypertension, sleep apnea, and orthopedic complications. Overweight children are taller and mature earlier than non-overweight children. (Dietz, Pediatrics 101 Suppl, March 1998).

However, the most widespread consequences of obesity in children are psychological. With a culture that generally prefers thinness, overweight children are targets of early and systematic discrimination. They have fewer friends and are regarded as lazy or sloppy. Obese adolescents develop a negative self-image. Children who mature early tend to have lower self-esteem. (Dietz, Pediatrics 101 Suppl, March 1998).

Being overweight during childhood increases the chance that the person will be overweight as an adult. Whitaker et al. (NEJM:1997; 337, 869-873) reported that 69 percent of overweight children 6 to 10 years will be obese at age 25, 83 percent of overweight children 10-15 years will be obese at age 25, and 77 percent of overweight adolescents 15-18 years will be obese at age 25. For children at risk of overweight, the percentages are 55, 75, and 67 respectively.

Tables 2 and 3 below provide the BMI-for-age statistics for South Dakota students. These data show that for all of the age groups and racial groups, South Dakota will need to substantially reduce the number of overweight children and adolescents in order to meet the Healthy People 2010 objective of five percent. The 9-11 year old and the 12-14 year old age groups and all racial groups except white are above the South Dakota 2010 Initiative goal of 15 percent.

Table 2: School Year 2003-2004 At Risk For Overweight And Overweight Body Mass Index For Age				
Age	Number of Students	At Risk for Overweight	Overweight	At Risk for Overweight and Overweight Combined
5-8 years	8,952	15.1%	13.0%	28.1%
9-11 years	9,767	16.7%	17.7%	34.4%
12-14 years	6,347	16.5%	17.0%	33.5%
15-19 years	2,179	16.6%	14.9%	31.5%
Total	27,245	16.1%	15.8%	31.9%

Source: South Dakota Department of Health

Table 3: School Year 2003-2004 At Risk For Overweight And Overweight Body Mass Index For Age, By Race				
Race	Number of Students	At Risk for Overweight	Overweight	At Risk for Overweight and Overweight Combined
White	21,114	15.7%	14.2%	29.9%
American Indian	3,357	18.1%	25.8%	43.9%
Other Races	815	17.2%	18.1%	35.3%
Race Unknown	1,959	16.8%	14.8%	31.6%
Total	27,245	16.1%	15.8%	31.9%

Source: South Dakota Department of Health

Regional Data

The 2003-2004 report provided regional data for the first time. South Dakota Educational Service Agencies Regions are defined by DOE. The composition of the regions varies in racial and age distribution. See the full report for additional information at:

www.state.sd.us/doh/stats/weight2002.pdf.

S.D. Education Service Agencies Region Map

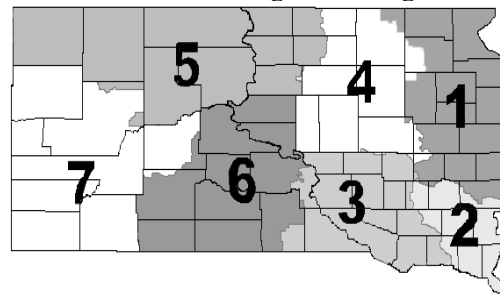


Table 4: School Year 2003-2004 At Risk For Overweight And Overweight Body Mass Index For Age, By Educational Region

Region	Number of Students	At Risk for Overweight	Overweight	At Risk for Overweight and Overweight Combined
1	6,118	16.1%	14.9%	31.0%
2	4,312	15.7%	13.8%	29.5%
3	2,951	15.7%	15.3%	31.0%
4	3,872	17.7%	16.7%	34.4%
5	1,217	19.0%	27.8%	46.8%
6	1,516	15.8%	17.0%	32.8%
7	7,259	15.3%	15.2%	30.5%
Total	27,245	16.1%	15.8%	31.9%

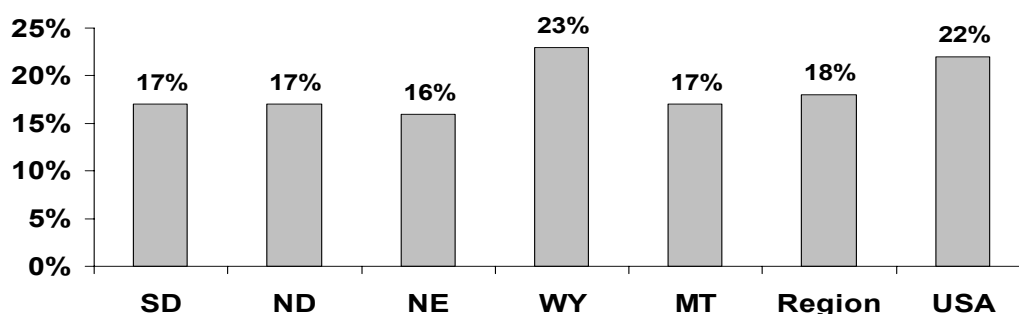
Source: South Dakota Department of Health

The trend in the steady rise in life expectancy during the past two centuries is coming to an end. The obesity epidemic is threatening to diminish the health and life expectancy of current and future generations. (Olshansky et al., NEJM: March 17, 2005 1138-1145).

Why is this happening? The high level of fat and calories in the average United States diet combined with excessive television viewing or video/computer games, rather than exercising regularly, has contributed to the escalating proportion of youth that are overweight or obese.

South Dakota teenagers have poor dietary habits. For example, according to the South Dakota 2003 Youth Risk Behavioral Survey, only 17 percent of high school students reported consuming the minimum recommended five servings of fruits and vegetables per day. The United States average is 22 percent.

Figure 1: Percentage of HS students who ate fruits and vegetables ≥ 5 times per day.

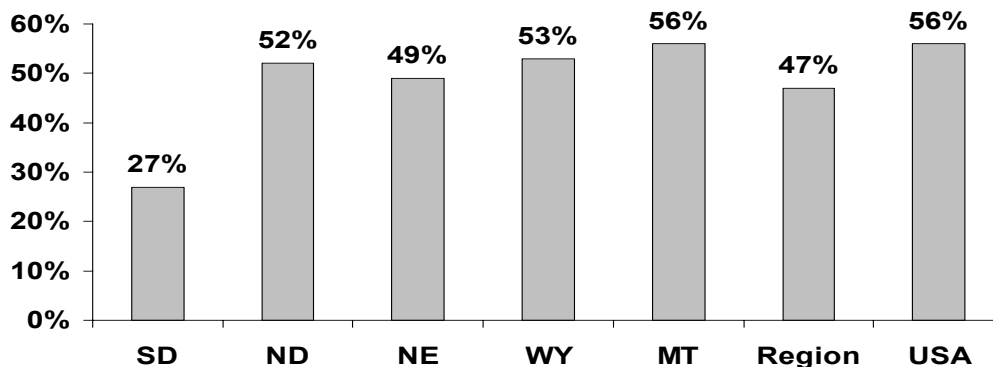


Note: Had consumed 100% fruit juice, fruit, green salad, potatoes (excluding French fries, fried potatoes, or potato chips), carrots, or other vegetables ≥ 5 times per day during the 7 days preceding the survey.

Source: 2003 YRBS

According to the American Obesity Association, youth are becoming more and more sedentary and are considered the most inactive generation in history. The South Dakota 2003 Youth Risk Behavioral Survey confirmed that only 27 percent of South Dakota youth were receiving one or more days a week of physical education class which is significantly lower than the surrounding states. The national average is 56 percent.

Figure 2: Percentage of HS students who were enrolled in a physical education (PE)



Note: On one or more days in an average week when they were in school.

Source: 2003 YRBS

The hours spent in front of a television have a direct correlation to rates of obesity in youth. According to the South Dakota 2003 Youth Risk Behavioral Survey, 52 percent of high school students stated that they viewed television two or more hours per day on an average school day. The national average is 61 percent. The American Academy of Pediatrics and others recommend two or less hours of television viewing per day.

Strategies to Combat Obesity

Child overweight and child obesity is a multi-faceted problem that should be addressed by promoting healthy eating and supplementing inactivity by increased physical activity. While needing to prevent overweight and obesity in children, care must be taken to avoid encouraging harmful habits or activities such as weight preoccupation, inappropriate eating, and extreme amount of exercise associated with eating disorders in youth. With an astonishing 30 to 60 percent of adolescents in the United States dieting, a three year study at Harvard Medical School found that putting children and teens on diets can create disordered eating patterns. This study also concluded that dieters, especially girls, were more likely to diet, then binge eat and gain extra pounds. Teens need to learn to adopt healthy and consistent eating behaviors.

The Centers for Disease Control and Prevention (CDC) has identified five main strategies to combat obesity and other chronic diseases:

- Increase fruit and vegetable intake
- Increase physical activity
- Decrease inactivity (television viewing)
- Increase breastfeeding
- Decrease calories and improve quality of diet

According to Primedia, an international marketing and research firm, the fast food industry spent more than \$13 billion on advertisements and promotion geared toward young consumers in 2004. Today's teenagers are victims of a "Super Size," "Double Dip," "Big Gulp" world. The key to instilling healthy eating habits in youth is by modeling. Parents, care givers, and community leaders need to be selective in their own food and beverage choices. Moderation, variety, and smaller portions of a diet rich in complex carbohydrates, lean protein, fruit and

vegetables, monounsaturated fats, and replacing soft drinks with water will greatly contribute to a healthier lifestyle. Soft drinks are one of the biggest stumbling points for teens who need to watch their weight. According to USDA Food Consumption Surveys, soft drinks provide 9 percent of the total calories consumed by teen males and 8 percent consumed by teen females. Soda, smoothies, frappacinos, etc. are all loaded with sugar and empty calories.

Another essential component of weight loss is at least 60 minutes of physical activity daily. This can be a sports team at school, swimming at the local pool, dance or other exercise classes, or just walking or riding a bike to and from school and around town. Children who get into the habit of daily physical activity at a young age are more likely to continue to exercise as adults, and thus are less likely to become overweight.

What can health professionals do? Height and weight should be measured accurately at every opportunity. This data should then be evaluated using the CDC growth charts to screen children and adolescents. All healthcare providers need to provide anticipatory guidance to parents and children regarding healthy eating and physical activity habits. Positive screens need to be referred to appropriate intervention. To obtain additional information on how you can help visit www.state.sd.us/doh/stats/2005brochure.pdf.

For more health information and lifestyle inspiration, the new Healthy South Dakota website, www.HealthySD.gov, is just a click away. This new website, from the Department of Health, is a single, reliable source of health information designed to help South Dakotans take small, manageable steps toward a healthier life.

Emerging diseases in South Dakota: Hantavirus Pulmonary Syndrome *by Lon Kightlinger, MSPH, PhD, State Epidemiologist, Department of Health*

Hantavirus pulmonary syndrome (HPS) is an emerging disease in the United States, including South Dakota. The hantaviruses are Bunyaviridae rodent viruses that are sometimes transmitted to humans. Humans are infected by breathing aerosolized virus from rodent droppings, urine, or saliva. Although rare, HPS is potentially deadly.

HPS was first recognized in 1993 in the southwest U.S. and has since been identified in 30 states, including South Dakota. Between May 1993 and May 2005, 387 cases of HPS have been reported in the United States, including nine South Dakota residents. South Dakota experiences about one HPS case annually. Nationally, 62 percent of HPS cases have been male, 38 percent female, mean age 38 years (range 10 to 83 years). Three-quarters of all cases have been rural residents. White people account for 78 percent of cases, American Indians 19 percent, and 3 percent other races.

Location of human Hantavirus Pulmonary Syndrome cases by virus type, as of 3-5-05. 387 cases in 30 states (CDC map credit).



Clinical manifestations www.cdc.gov/ncidod/diseases/hanta/hps/noframes/phys/clinical.htm

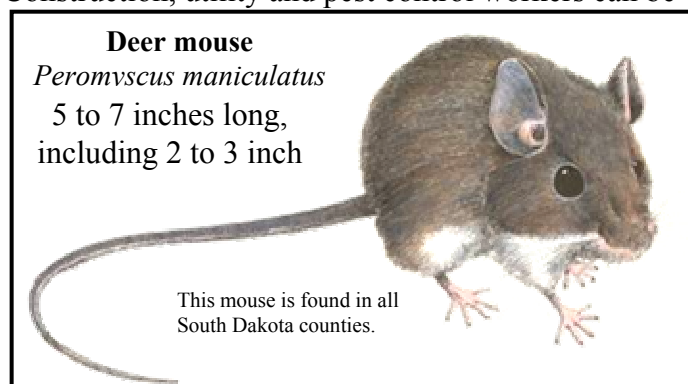
Human HPS symptoms develop approximately 2 weeks after exposure to mouse hantavirus (range few days to 6 weeks). HPS illness typically starts nonspecifically with 3-5 days of febrile prodrome. Early symptoms include fever, myalgia, headache, chills, dizziness, non-productive cough, nausea, vomiting and other gastrointestinal symptoms. Malaise, diarrhea, and lightheadedness are reported by half of all patients, with fewer reports of arthralgias, back and abdominal pain. Patients may report shortness of breath.

Cough and tachypnea generally do not develop until approximately day 7. Once the cardiopulmonary phase begins, the disease progresses rapidly, requiring hospitalization and often ventilation within 24 hours. Most patients develop some degree of hypotension and evidence of pulmonary edema and hypoxia, usually requiring mechanical ventilation. The historical case fatality rate is 36 percent.

Who is at risk? People in contact with live or dead mice, their droppings, urine, saliva or nests are at risk of HPS. Mouse infestation in and around the home is the primary risk for hantavirus exposure. Infection occurs when breathing in virus particles.

People living in mouse infested homes are at risk for hantavirus infections. Potential risk occurs when opening or cleaning cabins, sheds, outbuildings, barns, garages and storage units that have been closed during the winter. Construction, utility and pest control workers can be exposed when working in crawl spaces or buildings with mouse colonies. Campers, hunters and hikers can be exposed when using infested trail shelters or camp near rodent habitats.

Mice: The primary carrier of hantavirus in the United States is the deer mouse (*Peromyscus maniculatus*). The deer mouse has a gray-brown to brown-orange to buff topside with a white belly and white feet. Deer mice are 5 to 7 inches



long, including a 2 to 3-inch long tail. Deer mouse are prolific breeders nesting in cracks, buildings, burrows or under logs. This mouse is found in every county in South Dakota (Higgins et al., 2000. Wild Mammals of South Dakota, SDGF&P, p. 128-9).

Laboratory serologic testing for hantavirus IgM and IgG is available at the South Dakota Public Health Laboratory, which uses the CDC method. Please call the laboratory for specimen and shipping instructions 1-800-592-1861.

PREVENTION -- Seal, Trap, Clean: Rodent control in and around the home is the best way to prevent hantavirus infection.

SEAL UP: how to keep mice out of your home.

- ➔ Seal up gaps around roofs, attics, basements, windows and doors.
- ➔ Examine the outside of your house for gaps between foundation and ground.
- ➔ Inspect for gaps under sinks and locations where water pipes come into home.
- ➔ Fix gaps in trailer skirting.
- ➔ Check around vents and air conditioners for holes.
- ➔ Seal gaps or holes with steel wool, lath metal or caulk.

TRAP UP: how to use snap traps.

- ➔ Select an appropriate trap - some are for mice and others are for rats.
- ➔ Read instructions before setting the snap trap.
- ➔ Set away from children and pets.
- ➔ Place chunky peanut butter the size of a pea on the trap's bait pin.
- ➔ Position trap next to wall so it forms a "T" with the wall.
- ➔ Place traps where mouse, nesting materials, urine or droppings have been seen.

CLEAN UP: How to clean up mice and their droppings.

- ➔ Hantaviruses are viable in the environment for 2 to 3 days at normal room temperature.
- ➔ Wear rubber or plastic gloves when handling dead rodents or rodent droppings.
- ➔ Do not use vacuum cleaners or brooms, since they may create aerosols.
- ➔ Spray dead mouse, urine or droppings with a disinfectant or a mixture of bleach and water.
Mix 1½ cups of household bleach in 1 gallon of water.
- ➔ Soak mouse, nesting materials or droppings in bleach or disinfectant solution for 5 minutes before wiping up with paper towel or rag.
- ➔ Put paper towel and mouse with trap or nesting material in a plastic bag and seal it.
- ➔ Place the bag in a second plastic bag and seal it.
- ➔ Mop or sponge the area with disinfectant or bleach solution.
- ➔ Wash gloved hands with soap and water or spray a disinfectant on gloves before taking them off.
- ➔ Wash hands with soap and warm water after taking off gloves.

Clean up rodent food sources and nesting sites.

- ➔ Clean up junk and rubbish in and near home.
- ➔ Place human and pet food in thick plastic or metal containers with tight lids.
- ➔ Wash dishes and cooking utensils soon after use.
- ➔ Put pet food away in rodent-proof containers after use.

- ➔ Place garbage in thick plastic or metal can with a tight lid.
- ➔ Move woodpiles and composting bins more than 100 feet from the home.

- ➔ Trim grass and shrubbery within 100 feet of the home.

CDC Case Definition: Hantavirus Pulmonary Syndrome (HPS) www.cdc.gov/epo/dphsi/casedef/hantaviruscurrent.htm

Hantavirus Pulmonary Syndrome (Revised 9/96) Clinical description: Hantavirus pulmonary syndrome (HPS), commonly referred to as hantavirus disease, is a febrile illness characterized by bilateral interstitial pulmonary infiltrates and respiratory compromise usually requiring supplemental oxygen and clinically resembling acute respiratory disease syndrome (ARDS). The typical prodrome consists of fever, chills, myalgia, headache, and gastrointestinal symptoms. Typical clinical laboratory findings include hemoconcentration, left shift in the white blood cell count, neutrophilic leukocytosis, thrombocytopenia, and circulating immunoblasts.

Clinical case definition: An illness characterized by one or more of the following clinical features:
A febrile illness (i.e., temperature greater than 101.0 F {greater than 38.3 C}) characterized by bilateral diffuse interstitial edema that may radiographically resemble ARDS, with respiratory compromise requiring supplemental oxygen, developing within 72 hours of hospitalization, and occurring in a previously healthy person.
An unexplained respiratory illness resulting in death, with an autopsy examination demonstrating noncardiogenic pulmonary edema without an identifiable cause

Laboratory criteria for diagnosis: Detection of hantavirus-specific immunoglobulin M or rising titers of hantavirus-specific immunoglobulin G,
or
Detection of hantavirus-specific ribonucleic acid sequence by polymerase chain reaction in clinical specimens,
or
Detection of hantavirus antigen by immunohistochemistry.

Case classification Confirmed: a clinically compatible case that is laboratory confirmed

Comment: Laboratory testing should be performed or confirmed at a reference laboratory. Because the clinical illness is nonspecific and ARDS is common, a screening case definition can be used to determine which patients to test. In general, a predisposing medical condition (e.g., chronic pulmonary disease, malignancy, trauma, burn, and surgery) is a more likely cause of ARDS than HPS, and patients who have these underlying conditions and ARDS need not be tested for hantavirus.

For more information

SD Hantavirus Fact Sheet: www.state.sd.us/doh/Pubs/hanta.htm

CDC Hantavirus webpage: www.cdc.gov/ncidod/diseases/hanta/hps/index.htm

Health Department unveils strategic plan

The Department of Health has unveiled Health 2010, a strategic plan that is part of a larger statewide 2010 Initiative launched by Governor Mike Rounds to move South Dakota forward in a range of areas. Department of Health 2010 provides a concise blueprint for tackling major public health issues facing the state.

Health 2010 outlines four overarching goals:

- Improve birth outcomes and health of infants, children and adolescents in South Dakota;
- Improve the health behaviors of South Dakotans to reduce chronic disease (i.e., heart disease, cancer, stroke, diabetes);
- Strengthen the health care delivery system in South Dakota;
- Advance South Dakota's response to emerging public health threats.

For each goal area, the plan also details a series of strategies, action steps and key performance measures to monitor progress toward the goals. For example, under the goal of improving birth outcomes, a strategy is to promote early and regular prenatal care. Specific action steps include working with health care providers to address barriers to early prenatal care, increasing public awareness of the importance of early prenatal care, and strengthening links between primary care providers and public programs serving pregnant women. The performance measure is to reduce the infant mortality rate from 6.5 per 1,000 births in 2003 to 6 by 2010.

The plan also identifies four principles that should guide all department programs and efforts:

- Encourage use of technology;
- Emphasize customer service;
- Reduce health disparities;
- Work in partnership.

A copy of the Department of Health 2010 Initiative is published in this issue of the Bulletin. The plan is also available for download on the department web site at <http://www.state.sd.us/doh/Health2010.pdf>.

South Dakota Department of Health - Infectious Disease Surveillance				
Selected Morbidity Report, 1 January – 31 April 2005 (provisional)				
	Disease	2005 year-to-date	5-year median	Percent change
Vaccine-Preventable Diseases	Diphtheria	0	0	na
	Tetanus	0	0	na
	Pertussis	29	3	+867%
	Poliomyelitis	0	0	na
	Measles	0	0	na
	Mumps	0	0	na
	Rubella	0	0	na
	<i>Haemophilus influenza</i> type b	0	0	na
Sexually Transmitted Infections and Blood-borne Diseases	HIV infection	21	8	+163%
	Hepatitis B	0	0	na
	Chlamydia	889	718	+24%
	Gonorrhea	96	81	+19%
	Genital Herpes	128	115	+11%
	Syphilis, primary & secondary	0	0	na
Tuberculosis	Tuberculosis	6	8	-25%
Invasive Bacterial Diseases	<i>Neisseria meningitidis</i>	0	1	-100%
	Invasive Group A <i>Streptococcus</i>	9	8	+13%
Enteric Diseases	<i>E. coli</i> O157:H7	2	2	+0%
	Campylobacteriosis	27	31	-13%
	Salmonellosis	37	23	+61%
	Shigellosis	8	8	+0%
	Giardiasis	30	19	+58%
	Cryptosporidiosis	5	4	+25%
	Hepatitis A	0	1	-100%
Vector-borne Diseases	Animal Rabies	25	33	-24%
	Tularemia	0	0	na
	Rocky Mountain Spotted Fever	0	0	na
	Malaria (imported)	0	0	na
	Hantavirus Pulmonary Syndrome	1	0	na
	Lyme disease	0	0	na
	West Nile Virus disease	0	0	na
Other Diseases	<i>Streptococcus pneumoniae</i> , drug-resistant	2	1	+100%
	Legionellosis	0	1	-100%
	Additionally, the following diseases were reported: Bacterial meningitis, non-meningococcal (8), Chicken pox (56); Invasive Group B <i>Streptococcus</i> (8); MRSA, invasive (19); HUS (1); Toxic Shock Syndrome, <i>Staphylococcus aureus</i> (1), <i>Streptococcus pyogenes</i> (1); meningococcal disease (1).			

Communicable diseases are obligatorily reportable by physicians, hospitals, laboratories, and institutions.

The **Reportable Diseases List** is found at www.state.sd.us/doh/Disease/report.htm or upon request.

Diseases are reportable by telephone, mail, fax, website or courier.

Telephones: 24 hour answering device 1-800-592-1804; for a live person at any time call 1-800-592-1861; after hours emergency 605-280-4810. **Fax** 605-773-5509.

Mail in a sealed envelope addressed to the DOH, Office of Disease Prevention, 615 E. 4th Street, Pierre, SD 57501, marked "Confidential Medical Report". **Secure website:** www.state.sd.us/doh/diseasereport.htm.

2,500 copies of this Bulletin were printed by the Department of Health at a cost of \$0.00 per copy.